



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,509	06/26/2001	Thomas M. Colandene	NVL 3107	1100

7590 09/09/2004

DEPARTMENT OF THE ARMY - CECOM  
INTELLECTUAL PROPERTY DIVISION  
10225 BURBECK ROAD  
AMSEL LG P NVEO (MILTON LEE)  
FORT BELVOIR, VA 22060-5806

EXAMINER

MARTINEZ, JOSEPH P

ART UNIT	PAPER NUMBER
----------	--------------

2873

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/888,509

Applicant(s)

COLANDENE, THOMAS M.

Examiner

Joseph P. Martinez

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 4-6 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Otsuka (6040591).

Re claims 1 and 4, Otsuka teaches for example, a method and apparatus for providing a micro-optic function within an optical system (sensor system 101, fig. 2) comprising: a focal plane array (FPA) (vertical CCD register 1, fig. 5), wherein input radiation from a viewed scene (light L, fig. 5) is received by the optical system; and a substrate (adjusting layer 18, fig. 5) with a front side and a backside further including at least one microlens (microlens 17, fig. 5) attached thereto, to place said microlens between said FPA and said substrate (fig. 5, col. 4, ln. 7-9), said substrate being positioned spaced-apart from and approximate to the focal plane (fig. 5) within said optical system, wherein said microlens re-focuses said radiation and re-directs said radiation onto said detector surface (light L, fig. 5).

Re claim 5, supra claim 4. Otsuka further teaches for example, the micro-optic effect is an improved detector fill factor (col. 2, ln. 10-14).

Re claim 6, supra claim 1. Otsuka further teaches for example, focal plane array further comprises at least one optical detector (photosensor 2, fig. 5), each said optical detector corresponding to a respective microlens (fig. 5).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka in view of Gal (5497269).

Re claims 2 and 3, supra claim 1. Otsuka teaches for example, the apparatus with microlenses as disclosed above

But, Otsuka fails to explicitly teach a refractive or diffractive lens structure.

However, Gal teaches for example, the microlens is a diffractive or refractive lens structure (col. 12, ln. 20-21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the microlens of Otsuka with refractive or diffractive structure of Gal in order to produce a controlled dispersion of light.

### ***Response to Arguments***

Applicant's arguments filed 11-7-03 have been fully considered but they are not persuasive.

Re applicant's arguments on p. 4-5, wherein the applicant argues that the prior art disclosed does not describe the substrate being spaced apart from the FPA, have been considered,

but are not persuasive. Otsuka (6040591) teaches the substrate (18, fig. 1) to be spaced apart from the FPA (1, fig. 5).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ray et al. (5701008) disclose a microlens between a substrate and photo detector (fig. 4).

Uchida (6583438) discloses a microlens between a substrate and photo detector (fig. 1).

Kochi et al. (6188094) disclose a microlens between a substrate and photo detector (fig. 2).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

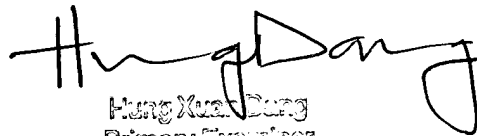
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number is 571-272-2335. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM  
9-1-04



Heng Xue Song  
Primary Examiner